

**Derek Snyder: Civil Engineering**

**Mentor: Greg Pederson -- Ecologist (USGS)**

***The Role of Humans and Climate in Historic Fire Activity on Tribal Forests of Northwestern Montana***

Over the past several millennia, the severity of fires in mixed-conifer forests has varied greatly. Human interaction with these forest ecosystems has likely had an effect on this. In the past, the Salish and Kootenai tribes conducted seasonal burns south of Flathead Lake. Recently, the Confederated Tribes have taken measures of fire suppression. This project uses fire history data from one area of historically high human burning activity and another area that has been mainly isolated from human activity. Over the summer, I began the project as a Montana Institute on Ecosystems undergraduate researcher collecting data. This data was collected by taking tree-core samples from the root collar of trees, noting fire scars on trees, and measuring the diameter. The samples are now being analyzed and cross-dated to model fire history. Comparing fire regime data from each of these areas may reveal the effect of human activity on fire severity. The ultimate goal is to use this information to inform future forestry management of the historical drivers of mixed-severity fires in the mixed-conifer forests of the tribal lands of the Northern Rocky Mountains.